

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A device for treating a surface of a substrate in a plasma enhanced process, the device comprising:

a vacuum chamber, and

arranged in the vacuum chamber, a magnetron electrode (32), a substrate support (26), and gas supply lines (33),

wherein the magnetron electrode is of the unbalanced type and comprises a flat magnetron face (20) with peripheral and central magnetic poles of opposite polarities and an electrode piece (21) being powered by a high frequency alternating voltage,

wherein the substrate support (26) is electrically grounded or floating or negatively biased and equipped for positioning the substrate (25) with a surface to be treated facing the magnetron face (20) at a distance thereof,

wherein the gas supply lines (33) are equipped for supplying a process gas or process gas mixture to the space between the magnetron face (20) and the surface to be treated of the substrate positioned on the substrate support, and

wherein the distance between the magnetron face (20) and the substrate support (26) is adapted to the magnetic field created by the magnetron electrode (32) such that there is a visible plasma band running between darker tunnels (11)

formed by magnetic field lines (10) extending between peripheral and central magnetic poles of the magnetron face (20) and the surface to be treated, the plasma band having a minimum width but having towards the surface to be treated a homogeneous brightness.

2. (Previously Presented) The device according to claim 1, wherein a distance (A-C) between the surface to be treated and the magnetron face (20) is at least 2% larger than a visible height (A-B) of the tunnels (11).

3. (Previously Presented) The device according to claim 1, wherein a distance (A-C) between the surface to be treated and the magnetron face (20) is at the most 20% larger than a visible height (A-B) of the tunnels (11).

4. (Previously Presented) The device according to claim 1, wherein a magnetic strength of the central magnetic pole of the magnetron face (20) is about half of a magnetic strength of the peripheral pole.

5. (Previously Presented) The device according to claim 1, wherein the magnetron electrode (32) comprises an electrode element (21) being connected to a source of an alternating voltage (34).

6. (Previously Presented) The device according to claim 5, wherein the substrate support and/or the substrate (25) are arranged to be electrically grounded, electrically floating or negatively biased.

7. (Previously Presented) The device according to claim 1, wherein the substrate support is a rotating drum (30) and wherein a plurality of magnetron electrodes (32) having rectangular faces being arranged with their length parallel to the rotation axis of the drum (30) are arranged around part of a circumference of the drum (30).

8. (Previously Presented) The device according to claim 7, wherein the gas supply lines (33) extend parallel to the drum axis between the magnetron faces (20).

9. (Previously Presented) The device according to claim 7, wherein each of the plurality of magnetrons (32) is connected to a separate power supply.

10. – 12. (Cancelled)